LCD Monitor

User Manual

The color and the appearance may differ depending on the product, and the specifications are subject to change without prior notice to improve the performance.

SAMSUNG

Table Of Contents

MAJOR SAFETY PRECAUTIONS

Before You Start 1-1
Care and Maintenance 1-2
Cleaning the Monitor 1-3
Safety Precautions 1-4

INSTALLING THE PRODUCT

Package Contents 2-1
Installing the Stand 2-2
Removing the Stand 2-3
Attaching a Wall Mount 2-4
Connecting to your Network 2-5
Connecting Power 2-6
Connecting to another Monitor 2-7
Connecting a SERIAL Cable 2-8
Connecting to your Printer 2-9
Connecting with a PC 2-10
Connecting a Stereo Cable 2-11
Connecting USB 2-12
Connecting Headphones 2-13
Connecting MIC 2-14
Kensington Lock 2-15

USING THE PRODUCT

What is a network monitor? 3-1
Plug & Play 3-2
Standard Signal Mode Table 3-3
Installing the Device Driver 3-4
Product Operating Buttons 3-5
Using the Screen Adjustment Menu (OSD: On Screen Display) 3-6

INSTALLING THE SOFTWARE

Using Windows Embedded Standard 7 4-1
MagicRMS Pro 4-2
Natural Color 4-3
MagicTune 4-4
MultiScreen 4-5

TROUBLESHOOTING

Monitor Self-Diagnosis 5-1
Before Requesting Service 5-2
FAQ 5-3

MORE INFORMATION

Specifications 6-1

Power Saving Function 6-2
Contact SAMSUNG WORLDWIDE 6-3
Correct Disposal of This Product
(Waste Electrical & Electronic Equipment) 6-4

1 Major Safety Precautions

1-1 Before You Start

Icons used in this manual

ICON	NAME	MEANING
	Caution	Indicates cases where the function may not work or the setting may be canceled.
	Note	Indicates a hint or tip to operate a function.

Using this Manual

- The contents of this manual are subject to change without prior notice for performance improvement.
- Make yourself fully aware of the safety precautions before using this product.
- If a problem occurs, refer to the 'Troubleshooting' section.

Copyright Notice

Copyright © 2011 Samsung Electronics Co., Ltd. All Rights Reserved.

The copyright of this manual is reserved by Samsung Electronics, Co., Ltd.

The contents of this manual may not be partially or in whole reproduced, distributed or used in any form without the written permission of Samsung Electronics, Co., Ltd.

The SAMSUNG logo and SyncMaster are the registered trademarks of Samsung Electronics, Co., Ltd.

Microsoft, Windows and Windows NT are the registered trademarks of Microsoft Corporation.

VESA, DPM and DDC are the registered trademarks of the Video Electronics Standard Association.

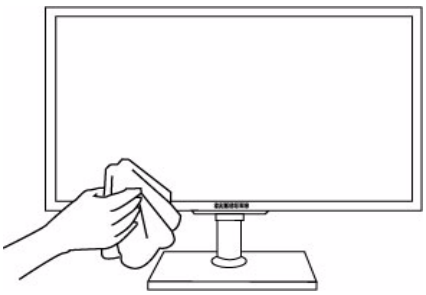
All other trademarks mentioned herein belong to their respective companies.

- An administration fee may be charged if either
  - (a) an engineer is called out at your request and there is no defect in the product (i.e. where you have failed to read this user manual).
  - (b) you bring the unit to a repair centre and there is no defect in the product (i.e. where you have failed to read this user manual).
- The amount of such administration charge will be advised to you before any work or home visit is carried out.

1-2 Care and Maintenance

External Surface and Screen Maintenance

Clean the product with a soft, damp cloth.



- Do not clean the product with an inflammable substance such as benzene or thinner or with a wet cloth. This may result in a problem with the product.
- Do not scratch the screen with your fingernails or a sharp object.
  This may result in scratches or damage to the product.
- Do not clean the product directly by spraying water onto the product.
  If water enters the product, it may result in fire, electric shock or a problem with the product.
- A white stain may be generated on the surface of the high-glossy model due to the inherent characteristics of the material, if a supersonic humidifier is used.

The appearance and the color may differ depending on the model.

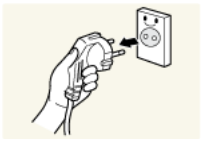
About persistent images

- Displaying a still image for a long time may create a persistent image or stain on the screen. If you do not use the product for a long time, set the power-saving mode or screen saver.
- Due to technological constraints of the LCD Panel manufacturer, the images generated by this product may appear either brighter or darker than normal by appr. 1ppm (parts per million) pixel.
  The number of sub-pixels of an LCD panel by size: The number of Sub-Pixels = Max. Horizontal Resolution x Max. Vertical Resolution x 3
  Example) If the maximum resolution is 1280x1024(1920 x 1080),the number of sub-pixels is 1280x1024(1920 x 1080) x 3 =3,932,160(6,220,800).

Cleaning the Monitor

The panel and exterior of the cutting-edge LCD monitor scratch easily and require careful attention.

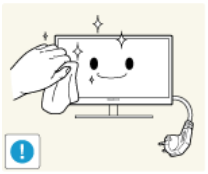
Clean the monitor according to the following steps:



1.Power off the monitor and computer.

2. Disconnect the power cable from the monitor.

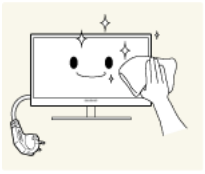
Hold the power cable by the plug and do not touch the cable with wet hands. Otherwise, an electric shock may result.



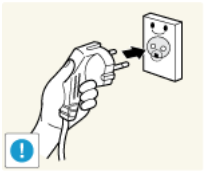
3. Wipe the monitor with a clean, soft and dry cloth.

- Do not apply a cleaning agent that contains alcohol, solvent, or surfactant to the monitor.

- Do not spray water or detergent directly on the product.



4. Wet a soft and dry cloth in water and wring thoroughly to clean the exterior of the monitor..



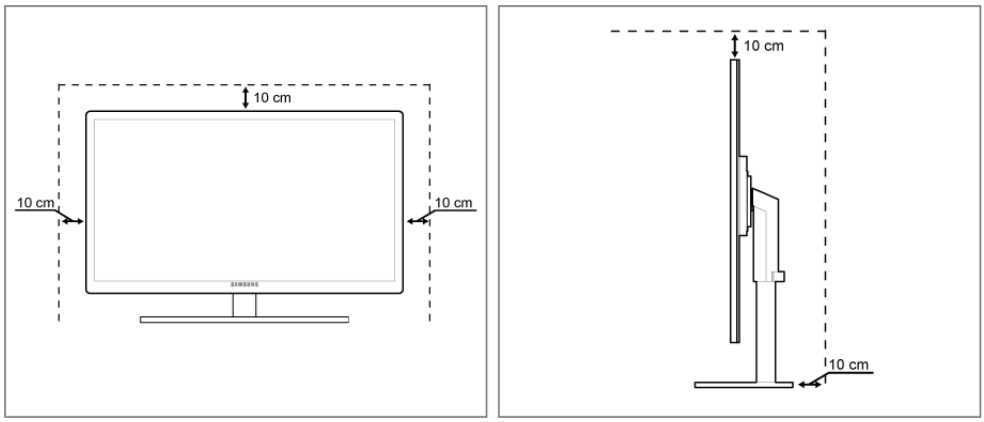
5. Connect the power cable to the product after cleaning the product.

6. Power on the monitor and computer.

Securing the Installation Space

- Ensure some space around the product for ventilation. An internal temperature rise may cause fire and damage the product. Be sure to allow the amount of space as shown below or greater when installing the product.

The exterior may differ depending on the product.



Precautions for storage

High-glossy models can develop white stains on the surface if an ultrasonic wave humidifier is used nearby.

Be sure to contact Samsung CustomerService Center if the inside of the monitor needs cleaning.

Icons used for safety precautions

ICON	NAME	MEANING
	Warning	Failing to follow the precautions marked with this sign, may result in a serious injury or even a fatality.
	Caution	Failing to follow the precautions marked with this sign, may result in a personal injury or property damage.

Meaning of Signs

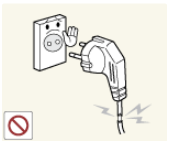
Do not perform.

Must be followed.

Power Related

The product image used in the following pictures for your reference may look different from the actual product.

Warning



Avoid using a damaged power cable or plug or a loose power outlet.

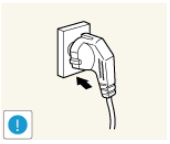
- Otherwise, it may result in electric shock or fire.

Avoid connecting multiple electric appliances to a single wall outlet.

- Otherwise, it may result in fire due to overheating of the wall outlet.

Avoid plugging in or unplugging the power supply with wet hands.

- Otherwise, it may result in electric shock.



Plug the power cable in firmly.

- Otherwise, it may result in fire.

Make sure to connect the power cable to a grounded wall outlet (for insulation class 1 equipment only).

- Otherwise, it may result in electric shock or injury.

Avoid bending or twisting the power cable excessively and avoid placing heavy objects on the cord.

- Otherwise, it may result in electric shock or fire due to a damaged power cable.

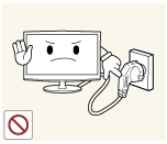
Keep the power cable and the product away from a heater.

- Otherwise, it may result in electric shock or fire.

If the pins of the power cable or the wall outlet are covered in dust, clean it using a dry cloth.

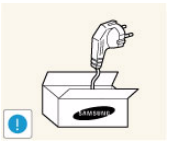
- Otherwise, it may result in fire.

Caution



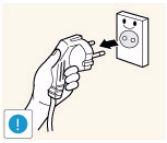
Avoid unplugging the power cable while the product is operating.

- Otherwise, it may damage the product due to electric shock.



Make sure to use only the power cable supplied by Samsung. In addition, do not use the power cable of another electric appliance.

- Otherwise, it may result in electric shock or fire.



When unplugging the power cable from the wall outlet, make sure to hold it by the plug and not by the cord.

- Otherwise, it may result in electric shock or fire.

Connect the power cable to a wall outlet that can be easily reached.

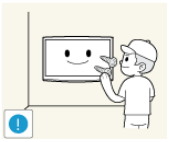
- When a problem occurs with the product, you must unplug the power cable to cut the power off completely. You cannot cut the power off completely using only the power button on the product.

Installation Related

Warning

Avoid placing burning candles, mosquito-repellent or cigarettes on the product and installing the product near a heater.

- Otherwise, it may result in fire.

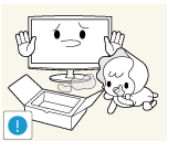


Ask an installation engineer or relevant company to install the product onto a wall.

- Otherwise, it may result in injury.
- Make sure to use the specified wall mount.

Avoid installing the product in a badly-ventilated location such as inside a bookshelf or closet.

- Otherwise, it may result in fire due to internal over-heating.



Keep the plastic bags used to pack the product away from children.

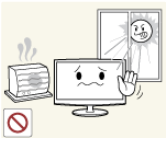
- If children place the plastic bags over their heads, they may suffocate.

Avoid installing the product in a location that is unstable or exposed to excessive vibrations such as on an unstable or slanted shelf.

- The product may fall and this may result in damage to the product or injury.
- If you use the product in a location exposed to excessive vibrations, it may result in a problem with the product or fire.

Avoid installing the product in a location exposed to dust, moisture (sauna), oil, smoke or water (rain drops) and installing it within a vehicle.

- This may result in electric shock or fire.



Avoid installing the product in a location exposed to direct sunlight or heat source such as a fire or heater.

- This may shorten the product life cycle or cause fire.

Avoid installing the product at a height where children may reach it.

- If a child touches the product, the product may fall and this may result in injury.
- Since the front part is heavier, install the product on a flat and stable surface.

Caution

Do not let the product drop while moving it.

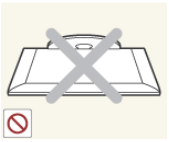
- This may result in a problem with the product or injury.

When installing the product on a console or shelf, make sure that the front of the product does not protrude out of the console or shelf.

- Otherwise, this may cause the product to fall off and result in a malfunction or injury.
- Make sure to use a cabinet or shelf suitable to the size of the product.

If the product is installed in a location where the operating conditions vary considerably, a serious quality problem may occur due to the surrounding environment. In this case, install the product only after consulting one of our service engineers about the matter.

- Places exposed to microscopic dust, chemicals, too high or low temperature, high humidity, such as airports or stations where the product is continuously used for a long time and so on.



Do not place the product face down on the floor.

- This may damage the panel of the product.

When putting the product down, handle it gently.

- Otherwise, it may result in a problem with the product or injury.

Usage Related

Warning

Since a high voltage runs through the product, never disassemble, repair or modify the product yourself.

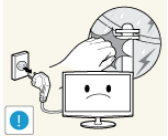
- Otherwise, it may result in fire or electric shock.
- If the product needs to be fixed, contact a service center.

If the product generates a strange noise, a burning smell, or smoke, unplug the power cable immediately and contact a service center.

- Otherwise, it may result in electric shock or fire.

If you drop the product or the case is damaged, turn the power off and unplug the power cable. Contact a service center.

- Otherwise, it may result in fire or electric shock.



When thunder or lighting occurs, unplug the power cable and under no circumstance touch the antenna cable as this is dangerous.

- Otherwise, it may result in electric shock or fire.

When cleaning the product, do not spray water directly over the product parts.

- Make sure that water does not enter the product.
- Otherwise, it may result in fire, electric shock or a problem with the product.

Avoid letting children to hang or climb onto the product.

- Otherwise, it may result in the product falling and this may result in injury or death.

Avoid placing objects such as toys and cookies on top of the product.

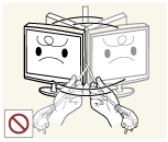
- If a child hangs over the product to grab an object, the object or the product may fall and this may result in injury or even death.

Avoid dropping an object over the product or cause impact to the product.

- Otherwise, it may result in electric shock or fire.

Avoid moving the product by pulling the power cable or antenna cable.

- Otherwise, it may result in electric shock, fire or a problem with the product due to damage to the cable.



Avoid lifting up or move the product by holding only the power cable or signal cable.

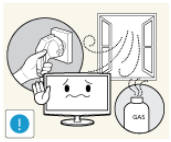
- Otherwise, it may result in electric shock, fire or a problem with the product due to damage to the cable.

Take care not to block the vent by a table cloth or curtain.

- Otherwise, it may result in fire due to internal overheating.

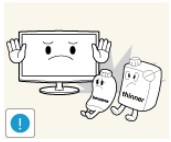
Avoid placing a liquid container such as a vase, flowerpot, beverage, cosmetics or drugs, or a metal object over the product.

- If water or an alien substance enters the product, turn the power off, unplug the power cable and contact a service center.
- Otherwise, it may result in a problem with the product, electric shock or fire.



When a gas leak occurs, do not touch the product or the power cable and ventilate immediately.

- A spark may result in an explosion or fire.
- During a thunder or lighting storm, do not touch the power cable or antenna cable.



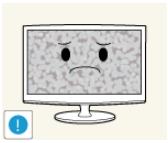
Avoid using or placing inflammable spray or objects near the product.

- This may result in an explosion or fire.

Avoid inserting metal objects such as a chopsticks, coins or hairpins, or inflammable objects into the product (the vents, ports, etc).

- If water or an alien substance enters the product, turn the power off, unplug the power cable and contact a service center.
- Otherwise, it may result in a problem with the product, electric shock or fire.

Caution

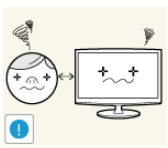


Displaying a still image for a long time may create a persistent image or stain on the screen.

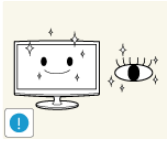
- If you do not use the product for a long time, use the power-saving mode or set the screensaver to the moving picture mode.

Set the appropriate resolution and frequency for the product.

- Otherwise, it may result in eye strain.

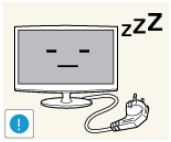


Watching the product from too close a distance continuously may damage your eyesight.



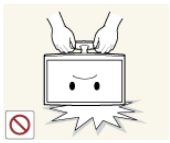
It is important to give your eyes some rest (5 minutes every hour) when viewing the product screen for long periods of time.

- This will alleviate any eye strain.



When not using the product for a long time such as leaving your home, unplug the power cable from the wall outlet.

- Otherwise, it may cause dust accumulation and result in fire caused by overheating or short circuit or result in an electric shock.



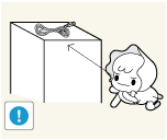
Avoid turning the product upside down or move the product holding only the stand.

- This may cause the product to fall resulting in damage to the product or injury.

Avoid using a humidifier or cooker near the product.

- Otherwise, it may result in electric shock or fire.

Since the display panel is hot after using it for a long time, do not touch the product.



Keep small accessories away from the children.

Take care when adjusting the angle of the product or the height of the stand.

- If your hand or finger is caught, you may be injured.
- If the product is tilted excessively, the product may fall and this may result in injury.

Avoid placing a heavy object over the product.

- Otherwise, it may result in a problem with the product or injury.

Maintaining the Correct Posture when Using this Product

Maintain the correct posture when using this product.

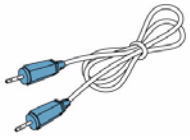
- Straighten your back.
- Keep a distance of 45~50 cm(18~ 20inches) from your eyes to the screen. Look down at the screen and face the screen forwards.
- Adjust the angle of the product so that light is not reflected onto the screen.
- Keep your elbow at a right angle and keep your arm level with the back of your hand.
- Keep your elbow at a right angle.
- Place your heels flat on the ground while keeping your knees at an angle of 90 degrees or higher and maintain the position of your arm so that your arm is below your heart.

2 Installing the Product

2-1 Package Contents

- If any items are missing, contact your dealer.
- Contact a local dealer to purchase optional items.
- Unpack the product and check if all of the following contents have been included.
- Store the packaging box in case you need to move the Product at a later stage.

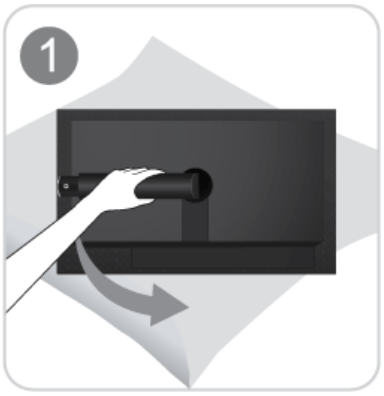
Monitor

CONTENTS			
Quick Setup Guide	Warranty Card	User Manual	Power Cable
OPTIONAL PARTS			
			
Keyboard (USB)	Mouse (USB)	D-Sub Cable	Stereo Cable
Headphone	MIC		

The color and the appearance may differ depending on the product, and the specifications are subject to change without prior notice to improve the performance.

2-2 Installing the Stand

Before assembling the product, place the product down on a flat and stable surface so that the screen is facing downwards.



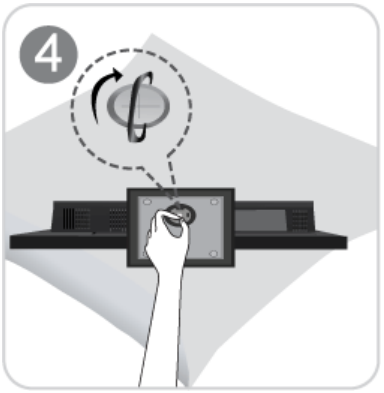
Place a soft cloth over the table to protect the product and place the product onto the cloth so that the front of the product is facing downwards.

Turn the stand in the direction indicated by the arrow.

Do not remove the stopper pin before installing the base.

Hold the main body of the product with your hand as shown by the figure.

Insert the stand base into the stand connection part in the direction shown in the figure.



Turn the connecting screw at the bottom of the stand fully so that it is completely fixed.

After the installation of the base, stand the monitor up as shown in the figure. Now you can remove the stopper pin to adjust the stand.

The height of the product can be adjusted after removing the stopper pin.

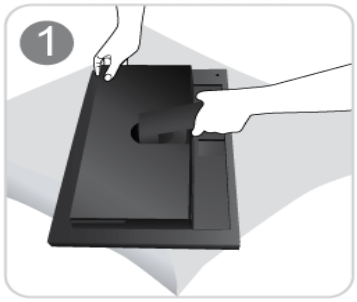
- Caution

Avoid lifting the product holding only the stand.

- The colour and the appearance may differ depending on the product, and the specifications are subject to change without prior notice to improve the performance.
- Disassembly is in the reverse order of assembly.

2-3 Removing the Stand

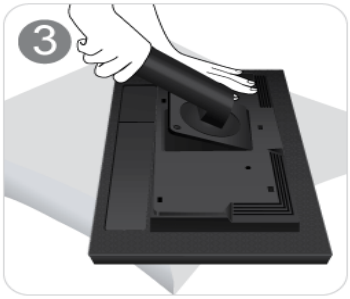
Before installation, disassemble the product according to the following steps.



Lift up the monitor stand to the maximum angle with your left hand, and remove the back decoration cover with your right hand, as shown in the figure.

Remove the two screws(A).

The stand can be detached after removing the screws.

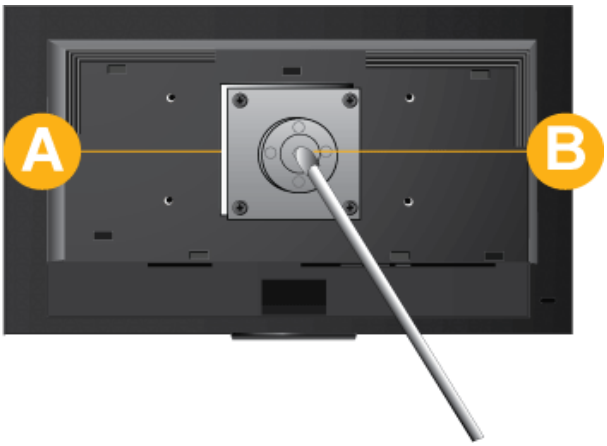


Remove the stand arm in the direction shown in the figure.

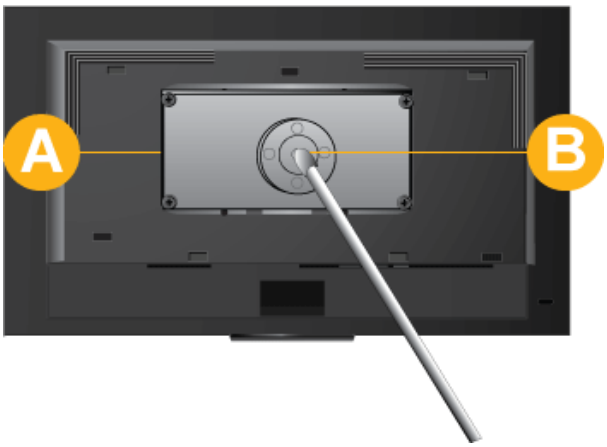
The colour and the appearance may differ depending on the product, and the specifications are subject to change without prior notice to improve the performance.

2-4 Attaching a Wall Mount

This product provides a wall mount of 100 mm x 100 mm(200 mm x 100 mm) that complies with the VESA specifications.



100 mm x 100 mm



200 mm x 100 mm

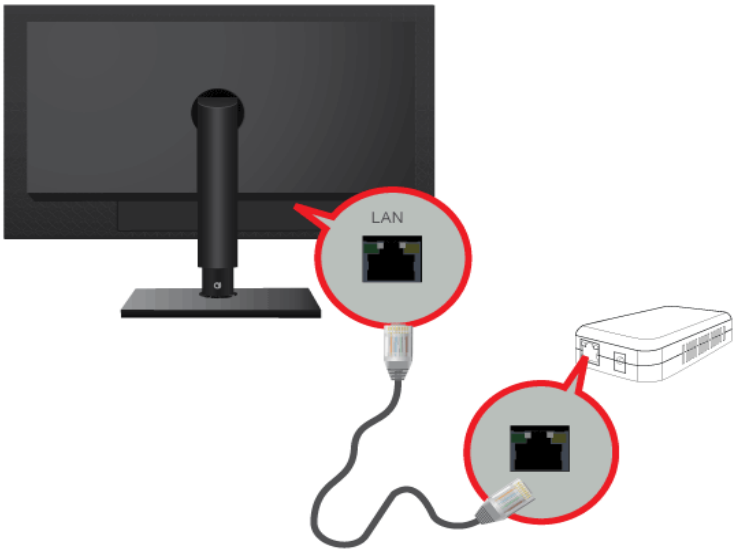
A Wall Mount Base

B Wall Mount Kit (Optional)

1. Turn the product off and unplug the power cable from the wall outlet.
2. Place a soft cloth or cushion on a flat surface to protect the panel and place the product face down.
3. Separate the stand.
4. Align the groove of the Monitor's wall mount base with the groove in the wall mount ki and firmly fix the wall mount kit by fastening the screws.

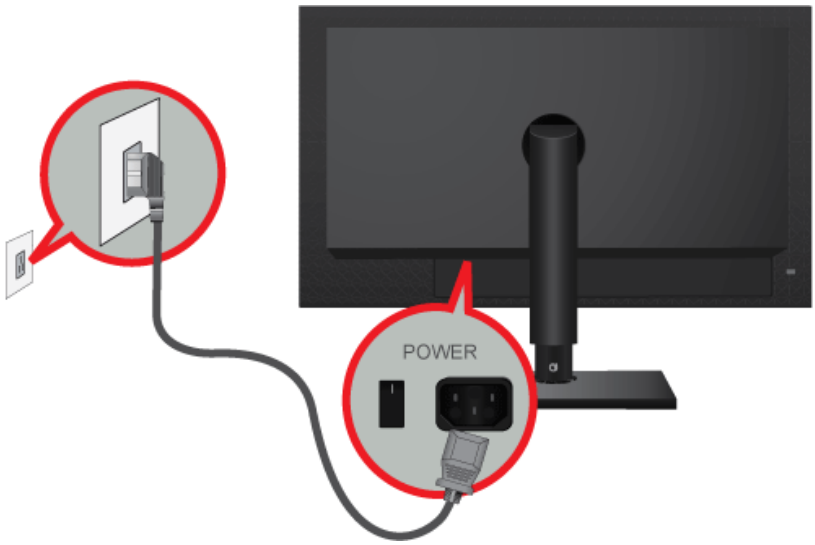
- If you use a screw that is longer than the standard specifications, the inside of the product may be damaged.
- For wall mounts that are not compatible with the standard VESA specifications, the length of the screw may differ depending on the corresponding specifications.
- Do not use screws that are incompatible with the standard VESA specifications and do not assemble them using excessive force.
- This may result in damage to the product or injury due to the product falling. Samsung shall not be held liable for any damage or injury.
- Samsung shall not be held liable for any damage to the product or injury caused by using a stand that is not compatible with the specified specifications or due to an installation not performed by an authorized installation engineer.
- When installing the product using a wall mount, purchase a wall mount that provides at least 4 inches (10 cm) of space from the wall.
- Samsung shall not be held liable for any problems caused by using a stand that is not compatible with the specified specifications.
- Use a wall mount according to specifications of your country.

2-5 Connecting to your Network



- The connecting part may differ depending on the product model.
- Connect between the [LAN] port on the product and your network using a LAN cable.

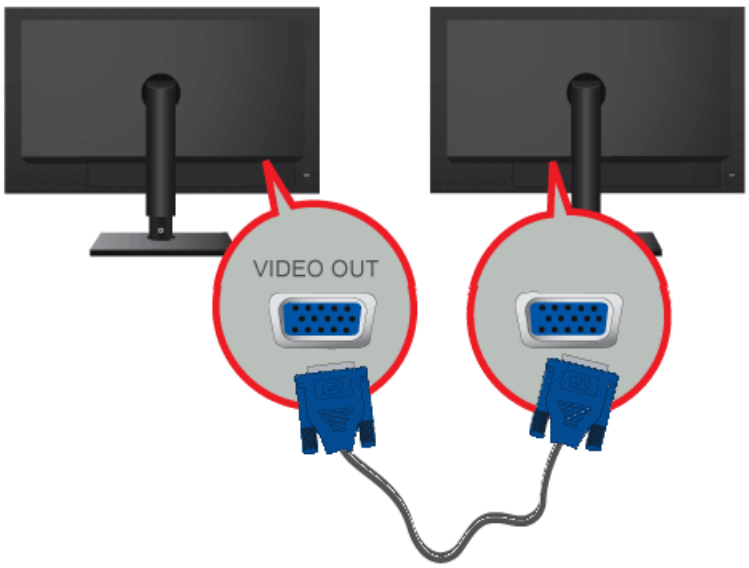
2-6 Connecting Power



- To use the product, connect the power cable to a power outlet and the [POWER] port on the product. (The input voltage is switched automatically.)

When the product is connected to a PC, you can turn the product on and use it.

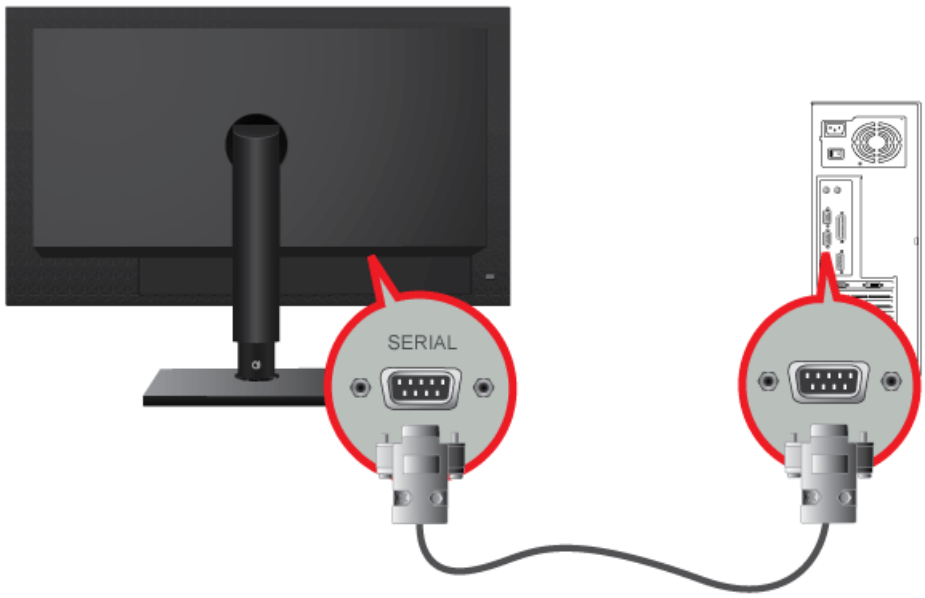
2-7 Connecting to another Monitor



- Connect between the [VIDEO OUT] port on the product and the D-Sub port on your monitor using a D-Sub cable.

Connect to the [VIDEO OUT] port to display the same picture on another monitor.
(For presentation purposes)

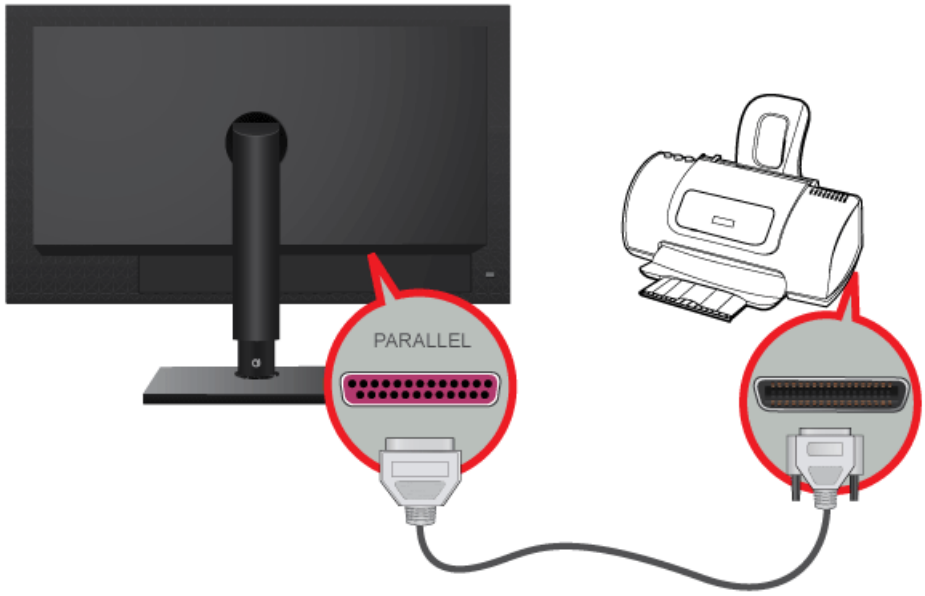
2-8 Connecting a SERIAL Cable



- Devices which support RS-232C connection (interface) can be connected.

The connecting part may differ depending on the product model.

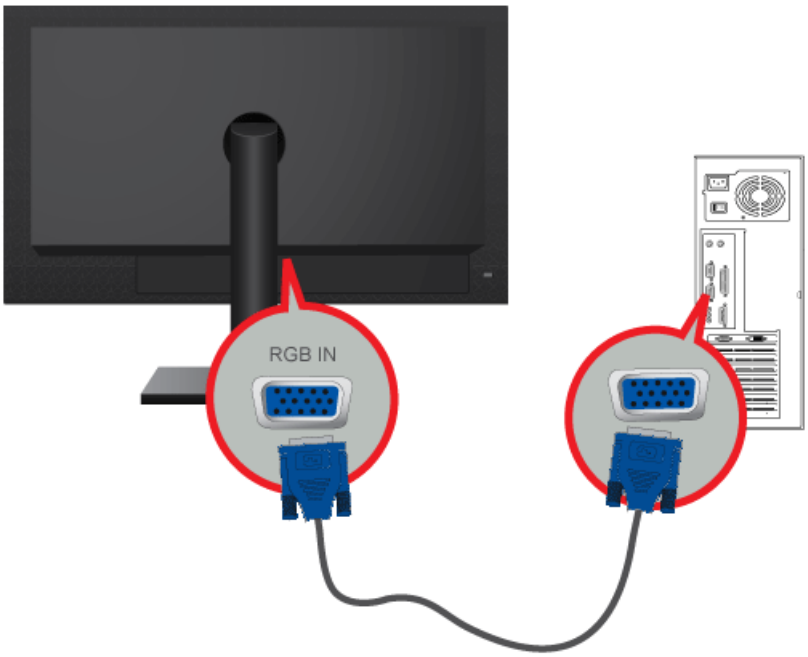
2-9 Connecting to your Printer



- Devices which support D-SUB 25-pin connection (interface) can be connected.

The connecting part may differ depending on the product model.

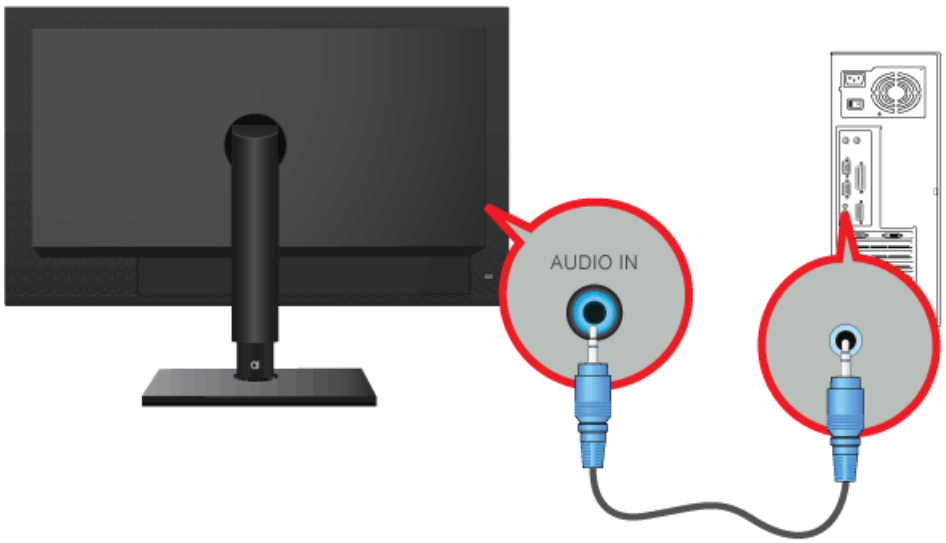
2-10 Connecting with a PC



- Connect the [RGB IN] port of the product to the [D-Sub] port of your PC with a D-Sub cable.

- The connecting part may differ depending on the product model.
- Use the [RGB IN] port to directly connect the monitor to a PC.

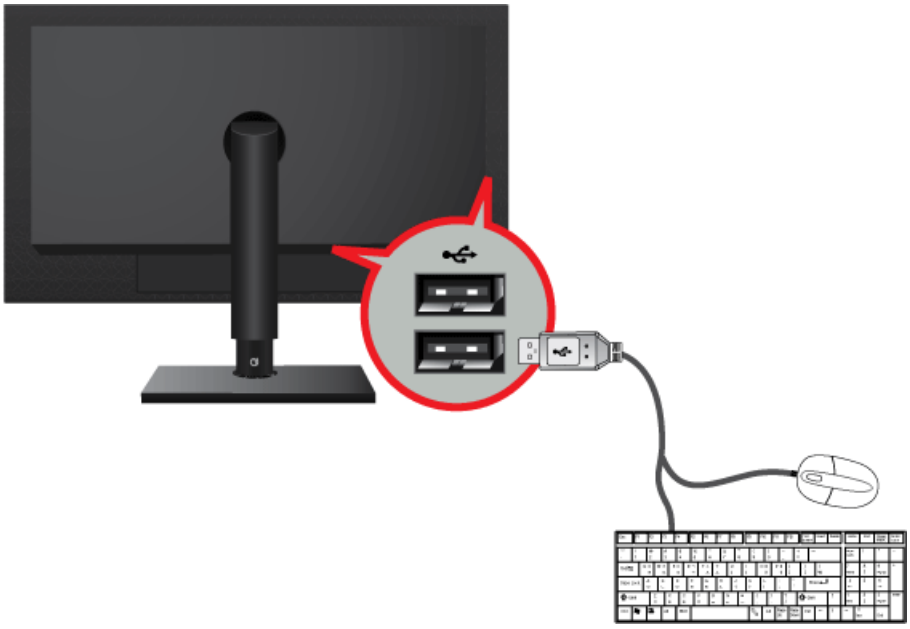
2-11 Connecting a Stereo Cable



- Connect the [AUDIO IN] port on the rear side of the monitor to the sound card of the PC.

The connecting part may differ depending on the product model.

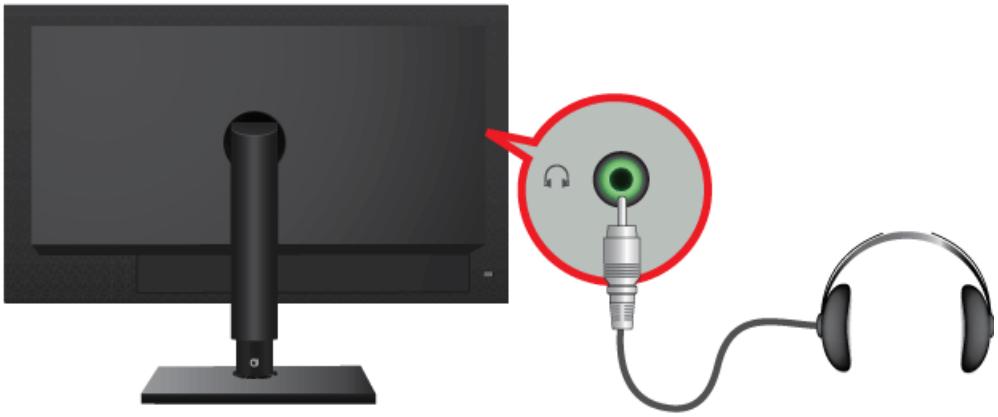
2-12 Connecting USB



- The USB port of the monitor supports Full-Speed Certified USB 2.0.
- Connect USB devices such as a mouse, keyboard and external storage devices (DSC (Digital Still Camera), MP3, external storage, etc.).

- The connecting part may differ depending on the product model.
- You can use a USB device such as a mouse, keyboard, Memory Stick, or external hard disk drive by connecting them to the USB port of the monitor without connecting them to the PC.

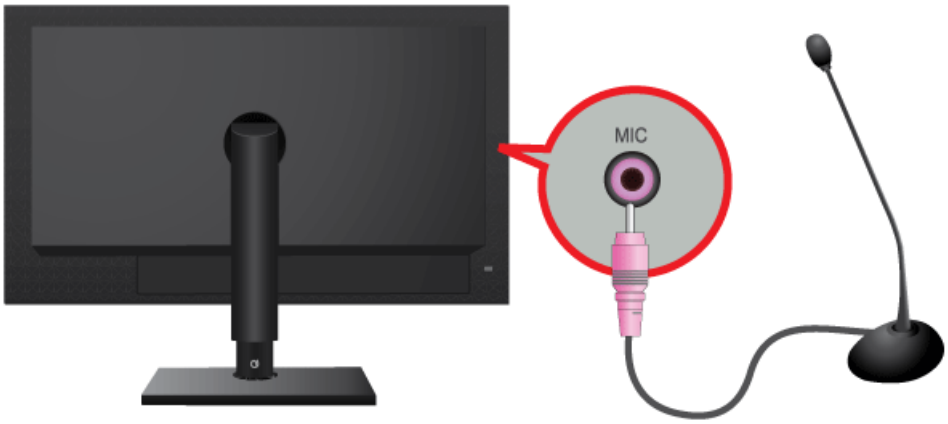
2-13 Connecting Headphones



- Connect your headphones to the Headphone connection terminal.

- The connecting part may differ depending on the product model.
- You may connect your headphones to the monitor.

2-14 Connecting MIC



- Connect the microphone cable to the MIC port on the monitor.

You may connect your microphone to the monitor.

2-15 Kensington Lock

A Kensington Lock is an anti-theft device that enables users to lock the product so that they can safely use it in public locations. Since the shape and usage of the locking device may differ depending on the model and the manufacturer, refer to the User Manual supplied with the locking device for more information.

The anti-theft Kensington lock is sold separately.

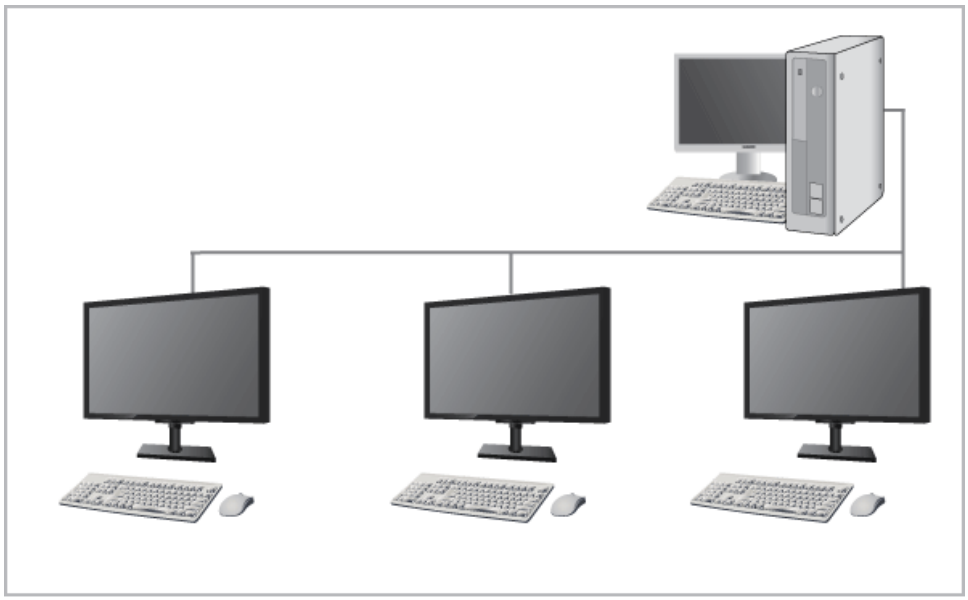
To lock the product, follow these steps:

1. Wrap the Kensington lock cable around a large, stationary object such as a desk or chair.
2. Slide the end of the cable with the lock attached through the looped end of the Kensington lock cable.
3. Insert the locking device into the Kensington slot on the Monitor (B) .
4. Lock the lock (A).

- These are general instructions. For exact instructions, see the User Manual supplied with the locking device.
- You can purchase the locking device from an electronics store, an online shop, or our service center.

3 Using the product

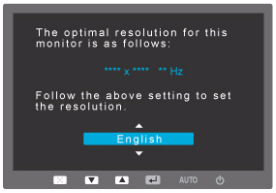
3-1 What is a network monitor?



- A network monitor can be used for the same purposes as a regular monitor. It also provides the functionalities of most computers, such as an Internet connection, creating documents, editing images, via a connection to the host PC over the LAN. In addition, it allows you to connect an external device (DSC, MP3, external storage media) to the USB port and play music, movies and games.
- You also can share the screen being displayed on your network monitor with other users by connecting a projector or other display device to its VGA OUT port. You can use this functionality for video conferencing and a variety of shared tasks.
- In addition, because Windows XP is installed on your network monitor, you can perform Internet searches and USB memory searches independently of your host PC.

3-2 Plug & Play

If you turn the power on after purchasing the product, a message regarding the optimal resolution setting appears on the screen. Select a language and the optimal resolution.



▲/▼ : You can select a language with these buttons.

MENU : If you press this button, the message disappears.

To set the resolution to the optimal resolution.

- When the PC is turned off, connect the product and the PC and turn the power on.
- Right-click over the Desktop and select 'Properties' from the pop-up menu.
- In the 'Settings' tab, set the resolution to the optimal resolution.
- The message appears up to 3 times if the resolution has not been set to the optimal resolution.

3-3 Standard Signal Mode Table

The LCD monitor has one optimal resolution for the best visual quality depending on the screen size due to the inherent characteristics of the panel, unlike for a CDT monitor.

Therefore, the visual quality will be degraded if the optimal resolution is not set for the panel size. It is recommended setting the resolution to the optimal resolution of the product.

If the signal from the PC is one of the following standard signal modes, the screen is set automatically. However, if the signal from the PC is not one of the following signal modes, a blank screen may be displayed or only the Power LED may be turned on. Therefore, configure it as follows, referring to the User Manual of the graphics card.

TC190

DISPLAY MODE	HORIZONTAL FREQUENCY (KHZ)	VERTICAL FREQUENCY (HZ)	PIXEL CLOCK (MHZ)	SYNC POLARITY (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	31.469	59.940	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 800	62.795	74.934	106.500	-/+
VESA, 1280 x 960	60.000	60.000	108.000	+/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+

TC240

DISPLAY MODE	HORIZONTAL FREQUENCY (KHZ)	VERTICAL FREQUENCY (HZ)	PIXEL CLOCK (MHZ)	SYNC POLARITY (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	31.469	59.940	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 800	62.795	74.934	106.500	-/+
VESA, 1280 X 960	60.000	60.000	108.000	+/+
VESA, 1280 X 1024	63.981	60.020	108.000	+/+
VESA, 1280 X 1024	79.976	75.025	135.000	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1440 x 900	70.635	74.984	136.750	-/+
VESA, 1600 x 1200	75.000	60.000	162.000	+/+
VESA, 1680 x 1050	65.290	59.954	146.250	-/+
VESA, 1920 x 1080	67.500	60.000	148.500	+/+

Horizontal Frequency

The time taken to scan one line from the left-most position to the right-most position on the screen is called the horizontal cycle and the reciprocal of the horizontal cycle is called the horizontal frequency. The horizontal frequency is represented in kHz.

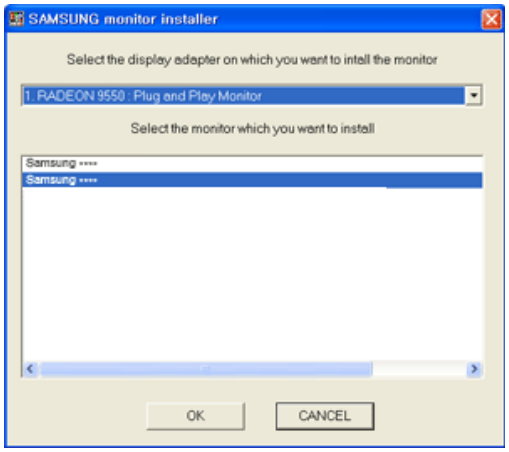
Vertical Frequency

A panel must display the same picture on the screen tens of times every second so that humans can see the picture. This frequency is called the vertical frequency. The vertical frequency is represented in Hz.

3-4 Installing the Device Driver

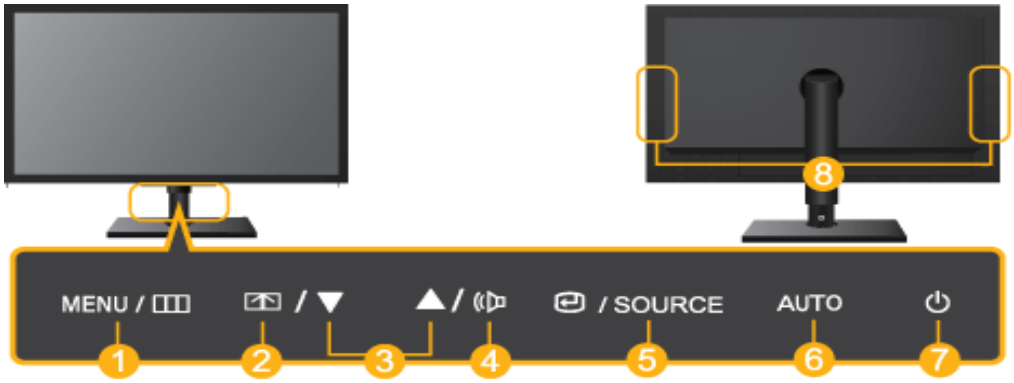
- You can set the optimum resolution and frequency for this product by installing the corresponding drivers for this product.
- An installation driver is contained on the CD supplied with the product.
- If the file provided is faulty, visit the Samsung homepage (http://www.samsung.com/)and download the file.

1. Insert the driver installation CD-ROM into the CD-ROM drive.
2. Click on "Windows Driver".
3. Complete the remaining installation steps according to the instructions displayed on the screen.
4. Select the model of your product from the model list.


SAMSUNG monitor installer
Select the display adapter on which you want to intall the monitor
1. RADEON 9550 : Plug and Play Monitor
Select the monitor which you want to install
Samsung ****
Samsung ****
OK
CANCEL

5. Check if the appropriate resolution and screen refresh rate are displayed in the Control Panel settings. For more information, refer to the document about the Windows operating system.

Product Operating Buttons



The buttons are located on the bottom of the product.

	Icon	Description
1	**MENU/**	Press this button to view the On Screen Display (OSD). This button is also used to exit the OSD or to return to a higher-level OSD menu. * Key Lock Function Locks the buttons to maintain the current settings or to prevent setting changes by other users. On: If you press down on the [MENU] button for 5 seconds, the Key Lock function will be set to On. Off: If you press the [MENU] button for 5 seconds, the Key Lock function will be set to Off.
2		Users can set the Customized Key to one of the following functions. If the user presses the Customized Key[] after setting it, the configured function will be performed. <MagicBright> - <MagicColor> - <Color Effect> - <Image Size> • <Image Size> : Applicable to the TC240 model only. • You can set the function of the <Customized Key> by selecting "<SETUP&RESET> -> <Customized Key>" in the OSD.
3	**▲/▼**	Adjust items in the menu. When OSD is not on the screen, press the button to adjust volume.
4		Controls the volume.
5	/SOURCE	Use this button to select a function. Press [/SOURCE] to select the video signal from a connected device while the OSD is off. (When the [/SOURCE] button is pressed to change the input mode, a message appears in the upper left of the screen displaying the current mode). To select the <PC/DVI> mode, the product must be connected to the graphics card on the PC using the D-SUB (PC) cable or DVI-D (DVI) cable.
6	**AUTO**	Press [AUTO] button to adjust the screen settings automatically. If the resolution settings are changed in the Display Properties, the <AUTO Adjustment> function is performed. This function is only available in <Analog> mode.

	Icon	Description
7	⏻	Press this button to turn the product on or off
8	**Speakers**	Applicable to the TC240 model only.
	Power LED	This LED is turned on when the product works normally. The power LED can be found above the buttons on the bottom of the monitor. For more information on the power-saving function, refer to the power saving function in More Information. When not using the product for a long time, unplugging the power cable is recommended to minimize power consumption.

3-6 Using the Screen Adjustment Menu (OSD: On Screen Display)

The Screen Adjustment Menu (OSD: On Screen Display) Structure

Top Menus	Sub Menus				
PICTURE	Brightness	Contrast	Sharpness	MagicBright	Coarse
	Fine				
COLOR	MagicColor	Red	Green	Blue	Color Tone
	Color Effect	Gamma			
SIZE & POSITION	H-Position	V-Position	Image Size	Menu H-Position	Menu V-Position
SETUP&RESET	Reset	Menu Transparency	Language	Clock	Off Timer
	On Timer	On Timer Source	On Timer Volume	Display Time	Customized Key
INFORMATION	-				

PICTURE

Menu	Description
Brightness	Controls the screen brightness. This menu is unavailable when <MagicBright> is set to <Dynamic Contrast> mode.
Contrast	Controls the contrast of the pictures displayed on the screen • This menu is unavailable when <MagicBright> is set to <Dynamic Contrast> mode. • This menu is unavailable when <MagicColor> is set to <Full> mode or <Intelligent> mode.
Sharpness	Controls the clarity of details of pictures displayed on the screen • This menu is unavailable when <MagicBright> is set to <Dynamic Contrast> mode. • This menu is unavailable when <MagicColor> is set to <Full> mode or <Intelligent> mode.

Menu	Description
MagicBright	Provides preset picture settings optimized for various user environments such as editing a document, surfing the Internet, playing games, watching sports or movies and so on. • <Custom> If the preset picture modes are not sufficient, you can configure the <Brightness> and <Contrast> directly using this mode. • <Text> This mode provides the picture setting appropriate for editing a document. • <Internet> This mode provides the picture setting appropriate for surfing the Internet (text + picture). • <Game> This mode provides the picture setting appropriate for playing games that include lots of graphics and that require a fast screen refresh rate. • <Sport> This mode provides the picture setting appropriate for watching sports games that include lots of movement. • <Movie> This mode provides brightness and sharpness settings similar to those of a TV for the best entertainment environment (movie, DVD, etc.). • <Dynamic Contrast> Controls the picture contrast automatically so that bright and dark pictures are balanced overall.
Coarse	Removes vertical noise lines (line pattern) from the screen. The location of the screen may be changed after the adjustment. In this case, move the screen so that the screen is displayed at the center of the display panel using the <H-Position> menu. This function is only available in <Analog> mode.
Fine	Removes horizontal noise lines (line pattern) from the screen. If you cannot remove the noise completely with the <Fine> function, adjust the <Coarse> and then use the <Fine> function again. This function is only available in <Analog> mode.

COLOR

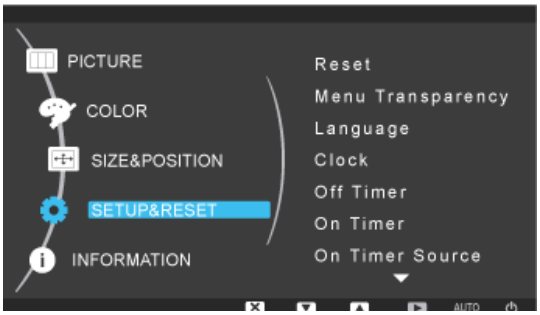
Menu	Description
MagicColor	Expresses natural colors more clearly without changing the picture quality by using proprietary digital picture quality improvement technology developed by Samsung Electronics. • <Off> - Turns the <MagicColor> function off. • <Demo> - You can compare the pictures processed by <MagicColor> with the original pictures. • <Full> - Provides a clearer picture including areas corresponding to skin color. • <Intelligent> - Improves the chroma of pictures except for areas corresponding to skin color.
Red	You can adjust the red color value according to your preference. This menu is unavailable when <MagicColor> is set to <Full> mode or <Intelligent> mode.
Green	You can adjust the green color value according to your preference. This menu is unavailable when <MagicColor> is set to <Full> mode or <Intelligent> mode.
Blue	You can adjust the blue color value according to your preference. This menu is unavailable when <MagicColor> is set to <Full> mode or <Intelligent> mode.
Color Tone	You can set the color temperature according to your preference. • <Cool> - Sets the color temperature of the screen to a cooler color. • <Normal> - Sets the color temperature of the screen to the standard color temperature. • <Warm> - Sets the color temperature of the screen to a warmer color. • <Custom> - Select this menu to set the color temperature manually. If you do not like the preset color temperatures, you can manually adjust the colors of <Color Effect>. This menu is unavailable when <MagicColor> is set to <Full> mode or <Intelligent> mode.
Color Effect	You can change the overall atmosphere by changing the color of pictures. • <Off> - Turns the <color effect> function off. • <Grayscale> -Displays pictures in black and white. • <Green> - Displays pictures in green monochrome color. • <Aqua> - Displays pictures in aqua monochrome color. • <Sepia> - Displays pictures in sepia monochrome color. Not available when <MagicColor> is in <Full>, <Intelligent>, or <Demo> mode.
Gamma	Using this menu, you can change the intensity of the colors of medium brightness. • <Mode1> - <Mode2> - <Mode3>

<Color> feature is not available when <MagicBright> is set to <Dynamic Contrast> mode.

SIZE & POSITION

Menu	Description
H-Position	Moves the position of the display area on the screen horizontally. This function is only available in <Analog> mode.
V-Position	Moves the position of the display area on the screen vertically. This function is only available in <Analog> mode.
Image Size	• <Auto> - The picture is displayed at the aspect ratio of the input signal. • <Wide> - The picture is displayed in full screen regardless of the aspect ratio of the input signal. • A signal not in the standard mode table is not supported. • If the resolution is set to the optimal resolution, the aspect ratio does not change whether the <Image Size> is set to <Auto> or <Wide>. • Applicable to the TC240 model only.
Menu H-Position	You can adjust the horizontal position of the OSD.
Menu V-Position	You can adjust the vertical position of the OSD.

SETUP&RESET



Menu	Description
Reset	Use this function to restore the visual quality and color settings to the factory defaults. • <No> - <Yes>
Menu Transparency	You can select the transparency of the OSD. • <Off> - <On>

Menu	Description
Language	Select a language for the OSD. • **English, Deutsch, Español, Français, Italiano, Svenska, Русский, Português, Türkçe, Polski, Magyar** The selected language is only applied to the product OSD. This setting does not affect the other functions of the PC.
Clock	Current Time Setting.
Off Timer	Used to set the product so that it automatically turns off at a certain time. • <Off> - <On> This menu is enabled if <Clock> is set.
On Timer	Used to set the product so that it automatically turns on at a certain time. • <Off> - <On> This menu is enabled if <Clock> is set.
On Timer Source	Used to adjust the mode when the product is automatically turned on. • <Analog> - <Client> This menu is enabled if <On Timer> is set.
On Timer Volume	Automatically adjusts the volume to a certain level when the product is turned on. This menu is enabled if <On Timer> is set.
Display Time	The OSD automatically disappears if no action is taken by the user. You can determine the time to wait before the OSD is hidden. • <5 sec> - <10 sec> - <20 sec> - <200 sec>
Customized Key	You can set the function of the Customized Key to one of the following. • <MagicBright> - <MagicColor> - <Color Effect> - <Image Size> <Image Size> : Applicable to the TC240 model only.

INFORMATION

Menu	Description
INFORMATION	Shows the frequency and resolution set on the PC.

4 Installing the Software

4-1 Using Windows Embedded Standard 7

What is Windows Embedded Standard 7 Client?

The **Microsoft Windows Embedded Standard 7(WES7)** client uses the **Microsoft Windows Embedded Standard 2011 OS**. When the WES client is connected to a server where **Citrix XenDesktop**, **VMWare View Client**, or **Microsoft Remote Desktop Connection** service is available, the keyboard, mouse, audio/video, and display data will be forwarded to the client through the network between the client and server.

Connectable Servers

- **A Citrix XenDesktop Server**
  - **Microsoft Windows 2000/2003/2008 Server** where the **Terminal Service** and **Citrix XenServer** are installed
- **A VMWare View Client Server**
  - **Microsoft Windows 2000/2003/2008 Server** where the **Terminal Service** and **VMWare Server** are installed
- **A Microsoft RDP(Remote Desktop Protocol) Server**
  - **Microsoft Windows 2000/2003/2008 Server** where the **Terminal Services** are installed
  - **Microsoft Windows 7 Professional**

This manual describes the functions provided by the **WES** Client. However, it does not explain general functionalities of **WES**. For more general information on **Windows 7**, refer to Windows 7 Help provided by **Microsoft**.

Logon

When the client starts, you can logon to the server by entering your username and password. The default usernames already configured are '**Administrator**' and '**User**', and their passwords are a space.

Windows Embedded Standard 7 Desktop

User

When you log in, the **User** Desktop appears. The default icons that appear on the **User** Desktop are **Recycle Bin**, **Computer**, **Citrix Online Plug in**, **VMWare View Client**, **Remote Desktop Connection** and **Internet Explorer**. You can also run this connection from the **Start** menu. The audio volume icon and system time are displayed on the **User** Taskbar.

When logged on as a **user**, there are many restrictions that protect the system from incorrect user actions. You cannot access the system drives and there are restrictions on configuring properties for them. To configure the client's advanced and detailed settings, log on as an **administrator**.

Administrator

If you logon as **Administrator**, the **Administrator** Desktop appears. The default icons that appear on the **Administrator** Desktop are **Recycle Bin**, **Computer**, **Citrix Online Plug in**, **VMWare View Client**, **Remote Desktop Connection** and **Internet Explorer**. You can also run the **Citrix Online Plug in**, **VMWare View Client**, **Remote Desktop Connection**, and **Internet Explorer** from the **Start** menu. The audio volume icon, Enhanced Write Filter status icon, and system time are displayed on the **Administrator** Taskbar. The **Administrator** privilege is required for adding and removing programs.

Log off, Restart, Shut down

- To log off the current session, shut down or restart your client, use the **Start** menu. [**Start** → **Shut down**]. The **Shut Down** Windows dialog box is displayed. To shut down the client immediately, select [**Start** → **Shut down**]. To select **Log off**, **Restart**, etc., move the mouse over the ▶ icon next to [**Shut down**]. Alternatively, you can perform Log off or **Shut down** using the Windows Security Dialog box by pressing [**Ctrl** + **Alt** + **Del**]. If '**Force Auto Log on**' is activated, you will be immediately logged on after each log off.

- The Client **Log off**, **Restart** and **Shut down** take effect on the operations of the EWF(Enhanced Write Filter). To keep the changed system configuration, you must save a cache for the current system session into flash memory. Failing to do so will cause the changed configuration to be lost when the client is shutdown or restarted. (In the case of logging off, the configuration is remembered when loggin in again.) For more information on the **Enhanced Write Filter**, refer to the Program Help.

Programs

The Remote Desktop Connection

You can control a running terminal server or another computer (**Windows 95** or later) remotely through a remote desktop connection.

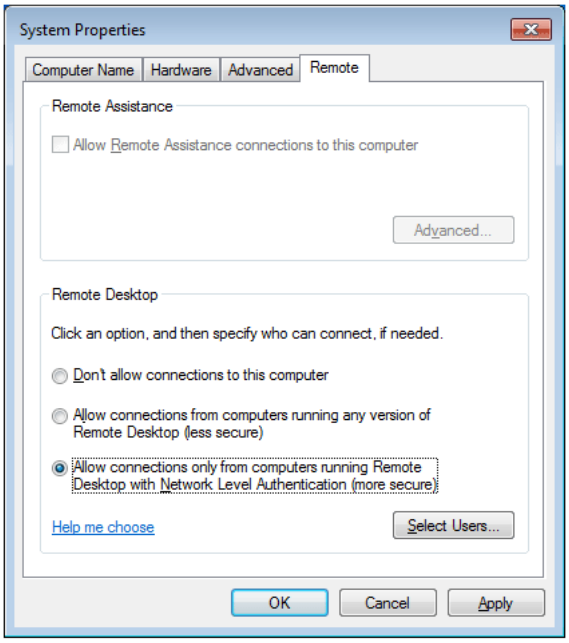
- **Remote Desktop**
  - **Windows 7 Professional** or **Windows 2000/2003/2008 Server** must be installed on the computer to be controlled remotely. This computer is called a host.
  - A remote computer running on an operating system later than **Windows 95** is required. This remote computer is called a client. The client software for the remote desktop connection must be installed on the client.
  - You must also be connected to the Internet. A broadband Internet connection is good for high performance. However, because the remote desktop transmits a minimum set of data including the display data and keyboard data to control the host remotely, a broadband Internet connection is not required. You can run a remote desktop on a low bandwidth Internet connection.

  When running a remote desktop on **Windows 7 Professional**, you cannot use the operating system of your computer.

- **Enabling Your Computer as the Host**
  You must enable the **Remote Desktop** feature to control it from another computer. You must be logged on as an **administrator** or a member of the **Administrators group** to enable **Remote Desktop** on your computer. Follow these steps:

  1. Open the **System** folder in the **Control Panel**.
  2. Go to [**Start** → **Control Panel** → **System and Security** → **System**], and click **Remote settings**.
  3. If you want to block other PCs from accessing your PC using **Remote Desktop** or **RemoteApp**, select “**Don't allow connections to this computer.**”

  - To allow a remote PC to access your PC using any version of **Remote Desktop** or **RemoteApp**, select "**Allow connections from computers running any version of Remote Desktop (less secure).**" This option is suitable if you do not know the **Remote Desktop Connection** version being used on other PCs. Note that this option is less secure than the next option (option 3).
  - To allow a remote PC to access your PC using a **Remote Desktop** or **RemoteApp** version requiring a network-level authentication, select "**All Remote Assistance connections to this computer**" to run **Remote Desktop** using network-level authentication.

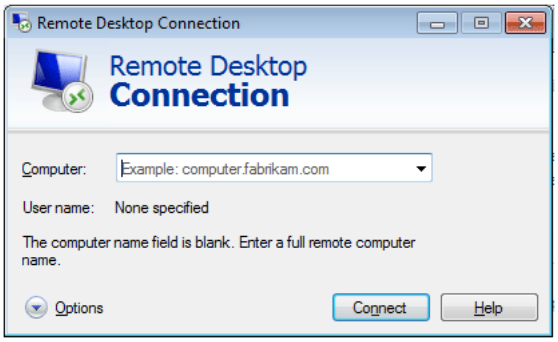


- **Start a Remote Desktop Session on the Client**

  Once you have enabled your host computer to allow remote connections and installed the client software on a Windows-based client computer, you are ready to start a **Remote Desktop** session.

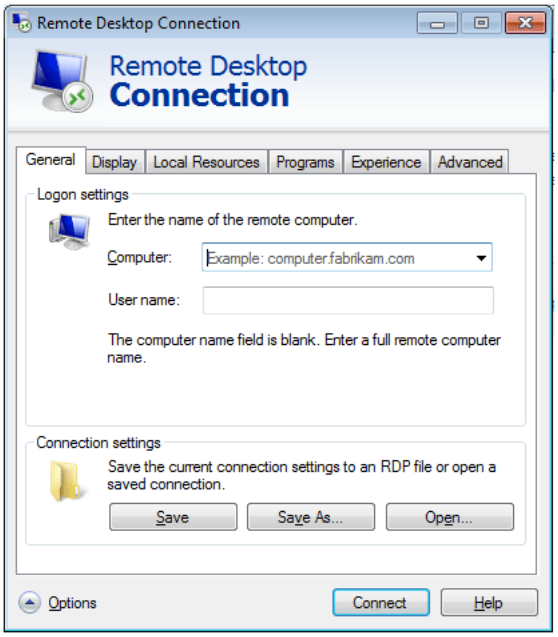
  You must first establish a virtual private network connection or remote access service connection from your client computer to your host computer. To connect to another remote desktop, follow the instructions below.

  1. Go to [**Start** → **All Programs** → **Accessories** → **Remote Desktop Connection**] or double-click the **Remote Desktop Connection** icon to open **Remote Desktop Connection**.
  2. Enter the host computer name. You can configure detailed settings by clicking the **Options** button.

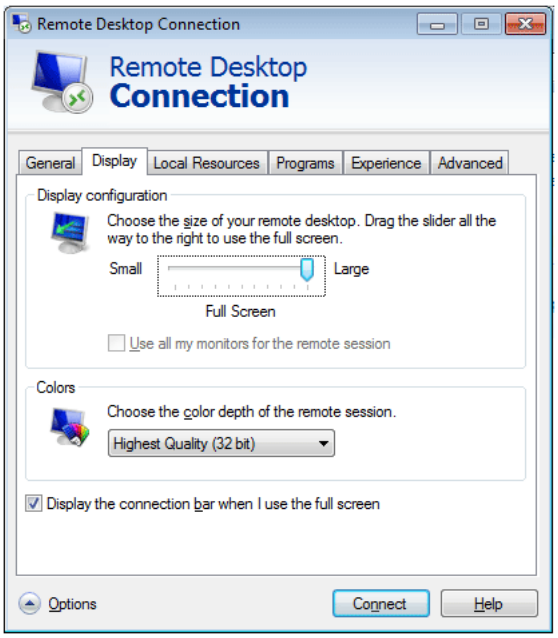


  3. **Options**

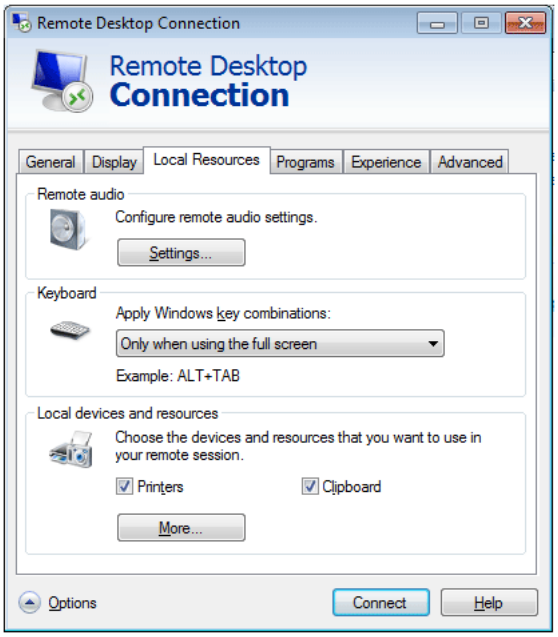
     - General : Enter in the login information for the host computer. To log in automatically, enter in the user name and password.



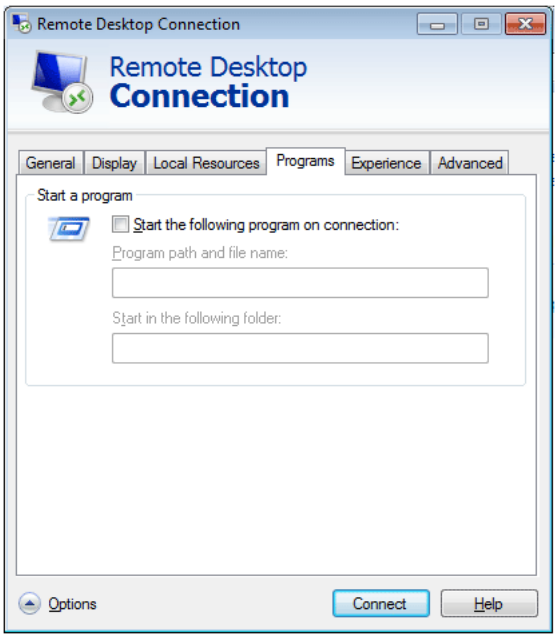
- Display : The **Remote Desktop Connection** sends and receives compressed screen data. If you set the resolution and color quality to the high option, the speed may become slow.



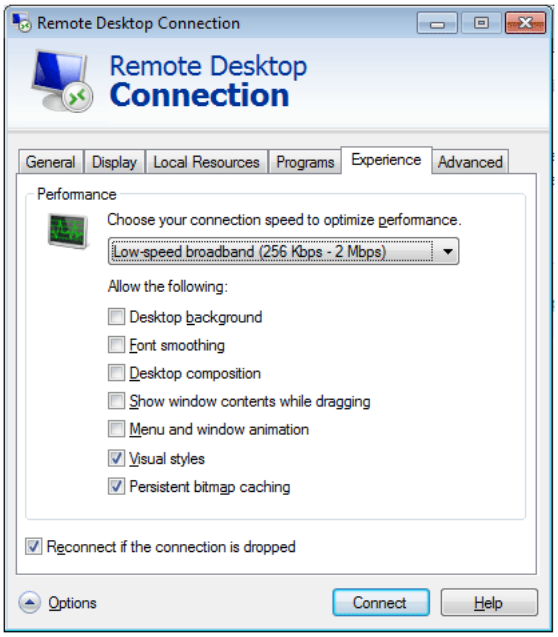
- Local Resource : Specify whether to use the hard disks and ports.



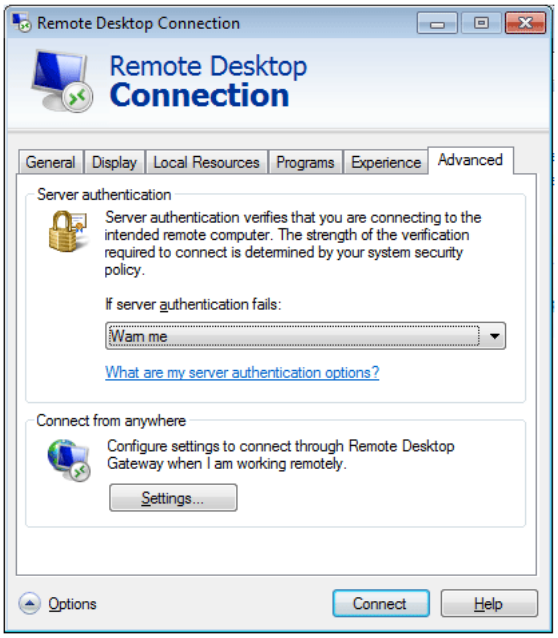
- Programs : Select an application and specify the folder where you want to run the application when a connection is established to the host PC.



- Experience : Specify the connection speed and the menu items you want to use on the remote PC connected. The settings specified will be shared with the host PC.



- Advanced : Protect your personal information when a connection is established.



4. Click **Connect**. The Log On to Windows dialog box appears.
5. In the “Log On to Windows” dialog box, type your username, password, and domain (if required), and then click **OK**. The **Remote Desktop** window will open and you will see the desktop settings, files, and programs that are on the host computer.

For more information on **Remote Desktop Connections**, visit the **Microsoft** web site.

Internet Explorer

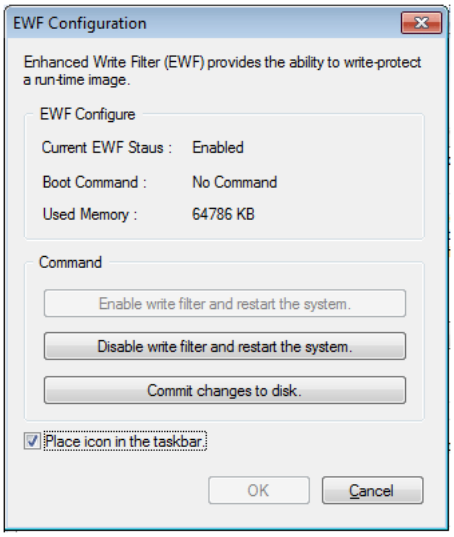
A **WES** Client includes **Internet Explorer**. This program is permitted for all users. **Microsoft** website.

For more information on Internet Explorer, visit the Microsoft website

Enhanced Write Filter

Enhanced Write Filter (EWF) protects a flash volume from write access and consequently, preserves the durability of the flash device. **EWF** provides read and write access through a cache to the client instead of allowing direct access to a flash volume.

If **EWF** is activated, data is not stored to the flash. The data stored in the cache is only effective while the client is operating. The cached data will be lost when restarting or shutting down your client. Therefore, to store the data written to the registry, favorites and cookie folders, etc., the content stored in the cache should be transferred to the flash. An error message is displayed when it is not possible to write to the cache due to a lack of memory. If this message is displayed, you have to deactivate **EWF** to flush the EWF cache. The user can double-click the **EWF** icon on the tray at the bottom right of the screen to call the **EWF** Manager. A user can also change the **EWF** configuration by entering **EWF** management commands at the command prompt. This task requires the **Administrator** privilege.


EWF Configuration
Enhanced Write Filter (EWF) provides the ability to write-protect a run-time image.
EWF Configure
Current EWF Staus : Enabled
Boot Command : No Command
Used Memory : 64786 KB
Command
Enable write filter and restart the system.
Disable write filter and restart the system.
Commit changes to disk.
Place icon in the taskbar
OK
Cancel

- **Enable write filter and restart the system.**
  If the **EWF** is disabled, enable it. If this item is selected, the cache is flushed and the **EWF** is enabled. After restarting your computer, the configurations and file system information for the client are written to a cache. You can also perform this operation by entering "**ewfmgr.exe c: -enable**" at the command prompt and restarting your computer.
- **Disable write filter and restart the system.**
  This item is activated when the **EWF** is running. If this item is selected, the current states of the client (saved in a cache) are saved to a flash volume and the **EWF** is disabled. After restarting your computer, the configurations and file system information for the client are written to a flash volume. You can also perform this operation by entering "**ewfmgr.exe c: -commitanddisable**" at the command prompt and restarting your computer.
- **Commit changes to disk.**
  This item is activated when the **EWF** is running. If this item is selected, the current states of the client (saved in a cache) are saved to a flash volume. However, the state of **EWF** will not be changed. You can also perform this operation by entering "**ewfmgr.exe c: -commit**" at the command prompt.

You can view the configurations for the protected volumes by entering "**ewfmgr.exe c:**" at the command prompt.

File-Based Write Filter (FBWF)

The **File-Based Write Filter (FBWF)** protects the memory of the client from being overwritten by any unauthorized user. By restricting excessive writing into the memory, the **FBWF** allows you to use the client for a long time. If you request I/O, the **FBWF** has the client perform its operations using the cache instead of the memory so that the memory can be protected.

The data saved in the cache is preserved while the client operates normally. It is removed when it is restarted or exited. To save the changes, you should write the relevant file onto the disk using the commit command. If you don't know which file is changed, disable the **FBWF**, change it, and enable it again.

You can control the **FBWF** using the various options of the command at a command prompt.

- **FBWF Configuration**
  - **Current FBWF status** : Displays the current status of the **FBWF** (**Enabled or Disabled**).
  - **Boot command** : Displays the FBWF command that will be performed at the next boot-up.
  - **RAM Used by FBEF** : Displays the size of the RAM the FBWF is using. If the current status is set to "**Disabled**", the used memory is displayed as 0 KB.
  - **Threshold** : Displays the maximum size of the RAM that the **FBWF** can use.
- **FBWF Command**

- **Enable the FBWF and reboot the system** : Enables the disabled **FBWF** and restarts the client. If the client is not restarted, only the boot command is changed to BWF_ENABLE and the current status is not changed.
- **Disable the FBWF and reboot the system** : Disables the enabled **FBWF** and restarts the client. If the client is not restarted, only the boot command is changed to FBWF_DISABLE and the current status is not changed.
- **Commit files** : Even if the disks are protected by the **FBWF**, you can add or delete the files you want to save on them. To write the changes onto the disk, click the [**Write the changes to the disk**] button.

- **Session Status**
  - **Current session** : Displays the volumes being protected by the **FBWF** and a list of the folders and files on those volumes that are excepted from protection by the **FBWF**.
  - **Next session** : Select the volumes that will be protected by the **FBWF** when the client is booted up next time. Also, select the folders and files that you want to except from protection by the **FBWF**.

Windows Media Player

The **WES** Client includes **Windows Media Player 12**. With **Windows Media Player**, you can play audio and video files on a website.

Configuring Utilities

Local Drive

- **C Drive**
  The C drive is used for the system. The client OS will not operate if space available on the system drive is not sufficient. Ensure sufficient space is available on the C drive. **EWF** can help maintain available space by preventing the C drive being written to directly.
- **Saving Files**
  Your client uses a fixed size of flash memory. Therefore, it is better to save files to the server rather than to your client.

Mapping a Network Drive

The **Administrator** can map a folder to a network drive. To keep the mapping information after restarting the client, take note of these directions carefully.

- Select the **Reconnect** at logon checkbox in the **Map Network Drive** dialog box.
- If the **EWF** or **FBWF** is enabled, the changes are saved on the disk.

Recover the System

Overview

The WES Client provides a recovery function which allows you to revert to a backed up system when encountering a serious problem. You can back up an OS image which is working normally to USB memory or the PXE server. You can revert to a backed up image when your client has one of these problems:

- When a system file is deleted accidentally or is corrupted
- When the client computer is unstable or there is a problem with a device driver
- When problems occur, after installing a new program or device
- When the client computer is infected with a virus
- When Windows Embedded Standard fails to start When a system file is deleted accidentally or is corrupted

How to Recover the System

- **Recovery Using USB Memory**
  By following these steps, you can save all necessary files to USB memory, and boot up with the backed up system on the USB memory and recover the system.

  1. Perform system formatting for your USB memory in order to make it bootable.
  2. Save the **Windows Embedded Standard** image and the Backup/Recovery Utility which will be recovered later to your USB memory.
  3. Boot up with the USB memory.

4. Recover the system using the **Windows Embedded Standard** image and the Backup/Recovery Utility in the USB memory.

- **Recovery Using Network Booting**
  This method is provided through the **PXE (Preboot eXecution Environment)** server. The PXE sever provides a client/server interface based on **TCP/IP**, **DHCP**, and **TFTP**. It allows an administrator at a remote location to configure and boot the operating system onto a client over a network.

  1. Implement a PXE server.
  2. Save the **Windows Embedded Standard** image and the Backup/Recovery Utility which will be recovered later onto the PXE server.
  3. Boot the client via the network.
  4. Recover the system using the Windows Embedded Standard image and the Backup/Recovery Utility saved on the PXE server via the network.

  For more information, refer to the PXE Server User Manual.

4-2 MagicRMS Pro

About MagicRMS Pro?

The **MagicRMS Pro** program can be used to remotely control a Samsung network monitor. The design of the user-oriented interface makes it easy and convenient to use.

Using **MagicRMS Pro**, you can schedule a task to be performed at a specified time on a network monitor.

Also, you can manage multiple network monitors efficiently by grouping or filtering them according to specific conditions.

To use the **MagicRMS Pro Solution** or **MagicRMS Pro Agent** and to view the user guide, visit www.samsunglfd.com. Go to **Support**>**Download Center**, and search for **MagicRMS** to download.

4-3 Natural Color

What is Natural Color?

This software works only for Samsung products and enables adjusting the displayed colors on the product and matches the colors on the product with the colors of the printed pictures. For more information, refer to the online help of the software (F1).

The Natural Color is provided online. You can download it from the website below and install;

http://www.samsung.com/us/consumer/learningresources/monitor/naturalcolorexpert/pop_download.html

4-4 MagicTune

What is MagicTune?

MagicTune is a software program that helps with monitor adjustments by providing comprehensive descriptions of monitor functions and easy-to-understand guidelines.

You can adjust the product with the mouse and the keyboard without using the operating buttons of the product.

Installing the Software

1. Insert the installation CD into the CD-ROM drive.
2. Select the MagicTune setup program.

   If the pop-up screen for the software installation does not appear on the main screen, find and double-click the MagicTune setup file on the CD-ROM.

3. Select the installation language and click [Next].
4. Complete the remaining software installation steps according to the instructions displayed on the screen.

   - The software may not work properly if you do not restart the computer after the installation.
   - The MagicTune icon may not appear depending on the computer system and the product specifications.
   - If the shortcut icon does not appear, press the F5 key.

Restrictions and Problems with the Installation (MagicTune™)

The installation of MagicTune™may be affected by the graphics card, motherboard and the networking environment.

System Requirements

OS

- Windows 2000
- Windows XP Home Edition
- Windows XP Professional
- Windows Vista 32Bit
- Windows 7 32Bit

For MagicTune™, Windows 2000 or later is recommended.

Hardware

- At least 32MB of memory
- At least 60MB of free space on the hard disk drive

For more information, refer to the website.

Removing the Software

You can only remove MagicTune™through [Add or Remove Programs] in Windows.

To remove MagicTune™, complete the following steps.

1. Click [Start] select [Settings], and select [Control Panel] from the menu.
   For Windows XP, click [Start], and select [Control Panel] from the menu.
2. Double-click the [Add or Remove Programs] icon in the Control Panel.

3. In the [Add/Remove] window, find and select MagicTune™so that it is highlighted.
4. Click [Change or Remove Programs] to remove the software.
5. Select [Yes] to start removing MagicTune™.
6. Wait until a message box appears informing you that the software has been removed completely.

For technical support, the FAQ (frequently asked questions) or information about the software upgrade for MagicTune™, please visit our website.（http://www.samsung.com/）

4-5 MultiScreen

What is MultiScreen?

MultiScreen enables users to use the monitor by partitioning multiple sections.

Installing the Software

1. Insert the installation CD into the CD-ROM drive.
2. Select the MultiScreen setup program.

   If the pop-up screen for the software installation does not appear on the main screen, find and double-click the MultiScreen setup file on the CD-ROM.

3. When the Installation Wizard appears, click [Next].
4. Complete the remaining software installation steps according to the instructions displayed on the screen.

   - The software may not work properly if you do not restart the computer after the installation.
   - The MultiScreen icon may not appear depending on the computer system and the product specifications.
   - If the shortcut icon does not appear, press the F5 key.

Restrictions and Problems with the Installation (MultiScreen)

The MultiScreen installation may be affected by the graphics card, motherboard and the networking environment.

Operating System

OS

- Windows 2000
- Windows XP Home Edition
- Windows XP Professional
- Windows Vista 32Bit
- Windows 7 32Bit

For MultiScreen, the operating systems Windows 2000 or later is recommended.

Hardware

- At least 32MB of memory
- At least 60MB of free space on the hard disk drive

Removing the Software

Click [Start], select [Settings]/[Control Panel], and then double-click [Add or Remove Programs].

Select MultiScreen from the program list and click the [Add/Delete] button.

5 Troubleshooting

5-1 Monitor Self-Diagnosis

- You can check if the product is working properly using the Self-Diagnosis function.
- If a blank screen is displayed and the Power LED blinks even if the product and the PC are properly connected, perform the self-diagnosis function according to the procedures below.

1. Turn the product and the PC off.
2. Separate the signal cable from the product.
3. Turn the product on.
4. If the product is working properly, the <Check Signal Cable> message appears.

In this case, if a blank screen is displayed again, make sure that there is no problem with the PC and the connection. The product is working properly.

5-2 Before Requesting Service

Please check the following before requesting After-Sales service. If the problem continues, please contact your nearest Samsung Electronics Service Center.

A BLANK SCREEN APPEARS / I CANNOT TURN THE PRODUCT ON	
Is the power cable connected properly?	Check the connection status of the power cable.
Is the <Check Signal Cable> message displayed on the screen?	Check the cable connecting the PC and the product. If the message appears on the screen even if the cable is properly connected, recheck the input signal by pressing the /SOURCE button of the product.
Is the <Not Optimum Mode> message displayed on the screen?	This occurs when the signal from the graphics card exceeds the maximum resolution or the maximum frequency of the product. In this case, set up the appropriate resolution and the frequency for the product.
Is a blank screen displayed and does the power LED blink at a 1 second interval?	This occurs when the power saving function is running. If you click the mouse or press any key, the screen will be turned on.
THE IMAGE IS TOO LIGHT OT TOO DARK.	
Adjust the <Brightness> and <Contrast>. If <MagicBright> is set to <Dynamic Contrast>, the display brightness can differ according to the input signal.	
THE COLOR IS WEIRD / THE PICTURE IS DISPLAYED IN BLACK AND WHITE	
Is the entire screen displayed in the same color as if viewing the screen through a cellophane paper?	Check the cable connection to the computer. Reinsert the graphics card into the computer completely. Check if the <Color Effect> is set to <Off>.
Is the graphics card configured correctly?	Set up the graphics card referring to the user manual.
THE DISPLAY AREA SUDDENLY MOVES TO AN EDGE OR TO THE CENTER	
Did you change the graphics card or the driver?	Please press the [AUTO] button to run the auto adjustment function.
Did you change the resolution and frequency appropriate to the product?	Set the resolution and the frequency to the appropriate values in the graphics card Refer to the (Standard Signal Mode Table)
Is the graphics card configured correctly?	Set up the graphics card referring to the user manual.
THE PICTURES ARE OUT-OF-FOCUS.	
Did you change the resolution and the frequency appropriate to the product?	Set the resolution and the frequency to the appropriate values in the graphics card Refer to the (Standard Signal Mode Table)

THE COLOR IS DISPLAYED IN 16 BIT (16 COLORS). THE COLOR HAS BEEN CHANGED AFTER CHANGING THE GRAPHICS CARD.	
Did you install the device driver for the product?	Windows XP : Set the color again by selecting Control Panel → Appearance and Themes → Display → Settings. Windows ME/2000 : Set the color again by selecting Control Panel → Display → Settings. Windows Vista : Change the color settings by selecting Control Panel → Appearance and Personalization → Personalization → Display settings. Windows 7 : Change the color settings by selecting Control Panel → Appearance and Personalization → Display → Adjust resolution → Advanced settings → Monitor. (For more information, refer to the Windows user manual for the computer.)
Is the graphics card configured correctly?	Configure the color again in accordance with the new graphics card driver.
WHEN I CONNECT THE MONITOR, THE 'UNKNOWN MONITOR, PLUG&PLAY (VESA DDC) MONITOR FOUND' MESSAGE IS DISPLAYED.	
Did you install the device driver for the product?	Install the device driver referring to the descriptions about the driver installation.
Check if all the Plug&Play (VESA DDC) functions are supported referring to the User Manual of the graphics card.	Install the device driver referring to the descriptions about the driver installation.
A "BEEP, BEEP" SOUND IS HEARD WHEN BOOTING THE COMPUTER.	
If the beep sound is generated 3 or more times when booting up the computer, please request service for the computer.	
PROBLEMS RELATED TO AUDIO	
No sound	Ensure that the audio cable is firmly connected to both the audio-in port on your monitor and the audio-out port on your sound card. Check the volume level.
Sound level is too low.	Check the volume level. If the volume is still too low after turning the control to its maximum, check the volume control on the computer sound card or software program.

5-3 FAQ

FAQ!	PLEASE TRY THE FOLLOWING!
How can I change the frequency of the video signal?	You have to change the frequency of the graphics card. Windows XP : Change the frequency by selecting Control Panel ⟶ Appearance and Themes ⟶ Display ⟶ Settings ⟶ Advanced ⟶ Monitor, and then change the refresh rate under Monitor Settings. Windows ME/2000 : Change the frequency by selecting Control Panel ⟶ Display ⟶ Settings ⟶ Advanced ⟶ Monitor, and then change the refresh rate under Monitor Settings. Windows Vista : Change the frequency by selecting Control Panel → Appearance and Personalization → Personalization → Resolution ⟶ Advanced settings ⟶ Monitor, and then change the refresh rate under Monitor Settings. Windows 7 : Change the frequency by selecting Control Panel → Appearance and Personalization→ Display → Adjust sreen resolution ⟶ Advanced settings ⟶ Monitor, and then change the refresh rate under Monitor Settings. (For more information, refer to the User Manual of the computer or the graphics card.)
How can I change the resolution?	Windows XP : Change the resolution by selecting Control Panel ⟶ Appearance and Themes ⟶ Display ⟶ Settings. Windows ME/2000 : Change the resolution by selecting Control Panel ⟶ Display ⟶ Settings. Windows Vista : Change the resolution by selecting Control Panel → Appearance and Personalization → Personalization → Resolution. Windows 7 : Change the resolution by selecting Control Panel → Appearance and Personalization → Display → Adjust sreen resolution . (For more information, refer to the User Manual of the computer or the graphics card.)
How can I use the power saving function?	Windows XP : Configure it by selecting Control Panel ⟶ Appearance and Themes ⟶ Display ⟶ Screen Saver Setting or configure it in the BIOS Setup of the computer. Windows ME/2000 : Configure it by selecting Control Panel ⟶ Display ⟶ Screen Saver Setting or Configure it in the BIOS Setup of the computer. Windows Vista : Change settings by selecting Control Panel → Appearance and Personalization → Personalization → Screen Saver . You can also use the BIOS SETUP menu on the PC. Windows 7 : Change settings by selecting Control Panel → Appearance and Personalization → Personalization → Change screen saver . You can also use the BIOS SETUP menu on the PC. (For more information, refer to the Windows user manual for the computer.)

6 More Information

6-1 Specifications

MODEL NAME		TC190	TC240
LCD Panel	Size	19 inches (48 cm)	23.6 inches (59 cm)
	Display area	376.32 mm (H) x 301.056 mm (V) / 14.8 inches (H) x 11.9 inches (V)	521.28 mm (H) x 293.22 mm (V) / 20.5 inches (H) x 11.5 inches (V)
	Pixel Pitch	0.294 mm (H) x 0.294 mm (V) / 0.012 inches (H) x 0.012 inches (V)	0.2715 mm (H) x 0.2715 mm (V) / 0.0107 inches (H) x 0.0107 inches (V)
Synchronization	Horizontal	30~81 kHz	
	Vertical	56~75 Hz	
Display Color		16.7 M	
Resolution	Optimum resolution	1280 x 1024 @ 60 Hz	1920 x 1080 @ 60 Hz(RB)
	Maximum resolution	1280 x 1024 @ 75 Hz	1920 x 1080 @ 60 Hz(RB)
Input Signal, Terminated		RGB Analog 0.7 Vp-p ± 5 % Separate H/V sync, Composite TTL Level (V high ≥ 2.0 V, V low ≤ 0.8 V)	RGB Analog 0.7 Vp-p ± 5 % Separate H/V sync, Composite, SOG TTL Level (V high ≥ 2.0 V, V low ≤ 0.8 V)
Maximum Pixel Clock		135 MHz (Analog/Digital)	170 MHz (Analog)
Power Supply		This product supports 100 – 240 V. Since the standard voltage may differ from country to country, please check the label on the back of the product	
Signal connectors		15pin-to-15pin D-sub cable, Detachable	
Dimensions (WxHxD) / Weight		410.7 x 385.6 x 197.0 mm / 16.2 x 15.2 x 7.8 inches / 6.45 Kg / 14.2 lbs	568.6 x 385.2 x 226.0 mm / 22.4 x 15.2 x 8.9 inches / 8.85 kg / 19.5 lbs
VESA Mounting Interface		100 mm x 100 mm / 3.9 inches x 3.9 inches	
Environmental considerations	Operating	Temperature : 50°F ~ 104°F (10°C ~ 40°C) Humidity :10 % ~ 80 %, non-condensing	
	Storage	Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Humidity : 5 % ~ 95 %, non-condensing	

Design and specifications are subject to change without prior notice.

Class B (Information Communication equipment for residential use)

This device is registered for EMC requirements for home use (Class B). It can be used in all areas. (Class B equipment emits less electromagnetic waves than Class A equipment.)

(USA ONLY)
Dispose unwanted electronics through an approved recycler.
To find the nearest recycling location, go to our website,
www.samsung.com/recyclingdirect, or call (877) 278 - 0799

6-2 Power Saving Function

This product provides a power saving function that automatically turns the screen off when the product is not used for a predetermined period of time to reduce power consumption. If the product enters power saving mode, the power LED turns to a different color to indicate that the product is in power saving mode.

When the product is in power saving mode, the power is not turned off and you can turn the screen on again by pressing any key or clicking the mouse. However, the power saving function only works when the product is connected to a computer that provides the power saving function.

STATE	NORMAL OPERATION	POWER SAVING MODE	POWER OFF (POWER SWITCH OFF)
Power Indicator	On	Blinking	Off
Power Consumption	TC190 : 45 watts	Less than 2.7 watts	0 watts
	TC240 : 65 watts		

- If there is no power cut-off switch, the power consumption is "0" only when the power cable is disconnected.
- The actual power consumption may be different from the indicated power consumption above if the system conditions or settings are changed.
- To stop any power consumption, turn off the switch or disconnect the power cable on the back. Be sure to disconnect the power if you intend to stay away from home for many hours.

6-3 Contact SAMSUNG WORLDWIDE

If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care center.

NORTH AMERICA		
U.S.A	1-800-SAMSUNG (726-7864)	http://www.samsung.com
CANADA	1-800-SAMSUNG (726-7864)	http://www.samsung.com/ca http://www.samsung.com/ca_fr (French)
MEXICO	01-800-SAMSUNG (726-7864)	http://www.samsung.com
LATIN AMERICA		
ARGENTINA	0800-333-3733	http://www.samsung.com
BRAZIL	0800-124-421 4004-0000	http://www.samsung.com
BOLIVIA	800-10-7260	http://www.samsung.com
CHILE	800-SAMSUNG(726-7864) From mobile 02-482 82 00	http://www.samsung.com
COLOMBIA	01-8000112112	http://www.samsung.com
COSTA RICA	0-800-507-7267	http://www.samsung.com
DOMINICA	1-800-751-2676	http://www.samsung.com
ECUADOR	1-800-10-7267	http://www.samsung.com
EL SALVADOR	800-6225	http://www.samsung.com
GUATEMALA	1-800-299-0013	http://www.samsung.com
HONDURAS	800-27919267	http://www.samsung.com
JAMAICA	1-800-234-7267	http://www.samsung.com
NICARAGUA	00-1800-5077267	http://www.samsung.com
PANAMA	800-7267	http://www.samsung.com
PERU	0-800-777-08	http://www.samsung.com
PUERTO RICO	1-800-682-3180	http://www.samsung.com
TRINIDAD & TOBAGO	1-800-SAMSUNG(726-7864)	http://www.samsung.com
VENEZUELA	0-800-100-5303	http://www.samsung.com
EUROPE		
ALBANIA	42 27 5755	http://www.samsung.com
AUSTRIA	0810 - SAMSUNG (7267864, € 0.07/min)	http://www.samsung.com
BELGIUM	02-201-24-18	http://www.samsung.com/be (Dutch) http://www.samsung.com/be_fr (French)
BOSNIA	05 133 1999	http://www.samsung.com
BULGARIA	07001 33 11	http://www.samsung.com
CROATIA	062 SAMSUNG (062 726 7864)	http://www.samsung.com

EUROPE		
CZECH	800 - SAMSUNG (800-726786)	http://www.samsung.com
	Samsung Electronics Czech and Slovak, s.r.o., Oasis Florenc, Sokolovská 394/17, 180 00, Praha 8	
DENMARK	70 70 19 70	http://www.samsung.com
FINLAND	030 - 6227 515	http://www.samsung.com
FRANCE	01 48 63 00 00	http://www.samsung.com
GERMANY	01805 - SAMSUNG (726-7864 € 0,14/Min)	http://www.samsung.com
CYPRUS	From landline : 8009 4000	http://www.samsung.com
GREECE	From landline : 80111-SAMSUNG (7267864) From landline & mobile : (+30) 210 6897691	http://www.samsung.com
HUNGARY	06-80-SAMSUNG(726-7864)	http://www.samsung.com
ITALIA	800-SAMSUNG(726-7864)	http://www.samsung.com
KOSOVO	+381 0113216899	http://www.samsung.com
LUXEMBURG	261 03 710	http://www.samsung.com
MACEDONIA	023 207 777	http://www.samsung.com
MONTENEGRO	020 405 888	http://www.samsung.com
NETHERLANDS	0900-SAMSUNG (0900-7267864) (€ 0,10/Min)	http://www.samsung.com
NORWAY	815-56 480	http://www.samsung.com
POLAND	0 801-1SAMSUNG(172-678) +48 22 607-93-33	http://www.samsung.com
PORTUGAL	808 20-SAMSUNG (808 20 7267)	http://www.samsung.com
RUMANIA	From landline : 08010-SAMSUNG (7267864) From landline & mobile : (+40) 21 206 01 10	http://www.samsung.com
SERBIA	0700 Samsung (0700 726 7864)	http://www.samsung.com
SLOVAKIA	0800 - SAMSUNG(0800-726 786)	http://www.samsung.com
SPAIN	902 - 1 - SAMSUNG (902 172 678)	http://www.samsung.com
SWEDEN	0771 726 7864 (SAMSUNG)	http://www.samsung.com
SWITZERLAND	0848 - SAMSUNG (7267864, CHF 0.08/min)	http://www.samsung.com/ch http://www.samsung.com/ch_fr/ (French)
U.K	0330 SAMSUNG (7267864)	http://www.samsung.com
EIRE	0818 717100	http://www.samsung.com
LITHUANIA	8-800-77777	http://www.samsung.com
LATVIA	8000-7267	http://www.samsung.com
ESTONIA	800-7267	http://www.samsung.com
Turkey	444 77 11	http://www.samsung.com

CIS		
RUSSIA	8-800-555-55-55	http://www.samsung.com
GEORGIA	8-800-555-555	http://www.samsung.com
ARMENIA	0-800-05-555	http://www.samsung.com
AZERBAIJAN	088-55-55-555	http://www.samsung.com
KAZAKHSTAN	8-10-800-500-55-500(GSM: 7799)	http://www.samsung.com
UZBEKISTAN	8-10-800-500-55-500	http://www.samsung.com
KYRGYZSTAN	00-800-500-55-500	http://www.samsung.com
TADJIKISTAN	8-10-800-500-55-500	http://www.samsung.com
MONGOLIA		http://www.samsung.com
UKRAINE	0-800-502-000	http://www.samsung.com/ua http://www.samsung.com/ua_ru
BELARUS	810-800-500-55-500	http://www.samsung.com
MOLDOVA	00-800-500-55-500	http://www.samsung.com
ASIA PACIFIC		
AUSTRALIA	1300 362 603	http://www.samsung.com
NEW ZEALAND	0800 SAMSUNG (0800 726 786)	http://www.samsung.com
CHINA	400-810-5858	http://www.samsung.com
HONG KONG	(852) 3698 4698	http://www.samsung.com/hk http://www.samsung.com/hk_en/
INDIA	1800 1100 11 3030 8282 1800 3000 8282 1800 266 8282	http://www.samsung.com
INDONESIA	0800-112-8888 021-5699-7777	http://www.samsung.com
JAPAN	0120-327-527	http://www.samsung.com
MALAYSIA	1800-88-9999	http://www.samsung.com
PHILIPPINES	1-800-10-SAMSUNG(726-7864) for PLDT 1-800-3-SAMSUNG(726-7864)for Digi-tel 1-800-8-SAMSUNG(726-7864) for Globe 02-5805777	http://www.samsung.com
SINGAPORE	1800-SAMSUNG(726-7864)	http://www.samsung.com
THAILAND	1800-29-3232 02-689-3232	http://www.samsung.com
TAIWAN	0800-329-999 0266-026-066	http://www.samsung.com
VIETNAM	1 800 588 889	http://www.samsung.com

MIDDLE EAST		
IRAN	021-8255	http://www.samsung.com
OMAN	800-SAMSUNG(726-7864)	http://www.samsung.com
KUWAIT	183-2255	http://www.samsung.com
BAHRAIN	8000-4726	http://www.samsung.com
EGYPT	08000-726786	http://www.samsung.com
JORDAN	800-22273	http://www.samsung.com
MOROCCO	080 100 2255	http://www.samsung.com
SAUDI ARABIA	9200-21230	http://www.samsung.com
U.A.E	800-SAMSUNG (726-7864)	http://www.samsung.com

AFRICA		
CAMEROON	7095- 0077	http://www.samsung.com
COTE D' IVOIRE	8000 0077	http://www.samsung.com
GHANA	0800-10077 0302-200077	http://www.samsung.com
KENYA	0800 724 000	http://www.samsung.com
NIGERIA	0800-726-7864	http://www.samsung.com
SENEGAL	800-00-0077	http://www.samsung.com
SOUTH AFRICA	0860-SAMSUNG(726-7864)	http://www.samsung.com
TANZANIA	0685 88 99 00	http://www.samsung.com
UGANDA	0800 300 300	http://www.samsung.com

6-4 Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in the European Union and other European countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.